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FOLLOW-UP IN THE SECOND GRADE OF AN EXPERIMENT COMPARING THE INITIAL TEACHING ALPHABET AND THE TRADITIONAL ALPHABET IN FIRST-GRADE READING.

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DATA SECURED FROM SECOND GRADERS INVOLVED IN A COMPARISON OF THE USE OF THE INITIAL TEACHING ALPHABET (ITA) AND OF TRADITIONAL ORTHOGRAPHY WHILE IN THE FIRST GRADE ARE REPORTED. IN THE SECOND GRADE, 132 EXPERIMENTAL PUPILS TAUGHT BY ITA AND 123 CONTROL PUPILS TAUGHT WITH TRADITIONAL ORTHOGRAPHY WERE AVAILABLE FOR STUDY. A COMPARISON WAS MADE BY THE T-TEST OF THE MEDIANS OF VARIOUS TEST SCORES ACHIEVED BY THE EXPERIMENTAL AND CONTROL POPULATIONS. THE CRITERIA USED WERE THE CALIFORNIA SHORT-FORM TEST OF MENTAL MATURITY, LEVEL O, GIVEN AT THE BEGINNING OF THE FIRST GRADE, THE STANFORD ACHIEVEMENT TEST PRIMARY BATTERY II, FORM W, GIVEN NEAR THE 140TH DAY IN THE SECOND GRADE, AND RATINGS ON A WRITING SAMPLE SECURED NEAR THE 160TH DAY OF THE SECOND GRADE. DIFFERENCES IN LANGUAGE ABILITY SCORES WERE NOT SIGNIFICANT EXCEPT FOR THE WORK STUDY SKILLS SECTION WHICH FAVORED THE EXPERIMENTAL GROUP. A WRITING SAMPLE RATED AT THE END OF THE FIRST GRADE FAVORED THE EXPERIMENTAL GROUPS, ALTHOUGH THE SECOND-GRADE SAMPLE DID NOT. A TABLE COMPARING THE MISSPELLINGS OF THE TWO GROUPS AND A LIST OF REFERENCES ARE INCLUDED. THIS PAPER WAS READ AT THE AMERICAN EDUCATIONAL RESEARCH ASSOCIATION ANNUAL MEETING (NEW YORK CITY, FEBRUARY 18, 1967) AND IS A FOLLOWUP TO ED 003 469. (RH)

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FOLLOW-UP IN THE SECOND GRADE OF AN EXPERIMENT COMPARING THE INITIAL TEACHING ALPHABET AND THE TRADITIONAL ALPHABET IN FIRST-GRADE READING

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The purpose of this paper is to report data gained from second graders who had originally been involved in a comparison of the use of the initial teaching alphabet (i.t.a.) and the traditional orthography in the first grade.

For the first grade, pupils in each of seven schools had been assigned randomly to an experimental and a control class. Each pair of classes was taught by two teachers. One teacher taught reading and related language activities to both the experimental and the control class. The other teacher taught other activities. Children in the experimental class received classroom instruction in a room where only the i.t.a. was used as the reading and writing medium. Children in the

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control class were housed in a room where the traditional alphabet was used. The teachers moved between the two rooms. The teachers were instructed to teach both classes using the same time schedules, the same ways of teaching, and, where possible, with the same materials. During the course of the school-year five meetings were held and numerous visits were made to each school to assure that both classes were taught in the same way and that data were secured according to plan.

Analysis of questionnaires filled out by parents and by the Ss' kindergarten teachers showed that the seven schools represented communities of widely varying socioeconomic status.

Now we turn to the second grade. In five of the schools, the pupils were assigned randomly to second-grade classes. In two schools, the experimental and control classes remained intact because the experimental pupils needed more work with the i.t.a.

Comparisons were made of the second-grade Ss who did not move away to determine whether the experimental and control populations were comparable as they originally had been in the first grade. 132 experimental pupils and 123 control pupils remained for whom all data were available from the beginning of the study. A comparison was made of original scores gained by these Ss at the beginning of the first grade on the California Short-Form Test of Mental Maturity, Level 0. The mean raw score for the experimental population was 40.57 and the mean

raw score for the control Ss was 41.58. Using the t-test statistic, it was found that the difference between these means was not significant. Similarly, it was found there was no significant difference in age of the experimental and control populations at the beginning of the first grade. For the second-grade experimental population mean age at the beginning of first-grade was found to be 76.69 months and for the control group the beginning of first-grade mean age was 76.79 months.

Near the 140th day of instruction the Stanford Achievement Test, Primary Battery II, Form W was administered. Results were compared for the five language sections of the test: Word Meaning, Paragraph Meaning, Spelling, Work Study Skills, and Language. Median grade scores of these five sections were compared and raw scores and grade scores gained in each section of the test were also compared.

The mean of the median grade scores for the experimental Ss was 31.24. For the control population the mean of the median grade scores was 30.32. These means were not significantly different when compared by the t-test statistic. A year earlier, at the end of the first grade, there also was no significant difference between the populations.

Comparisons were also made of median grade scores gained by sub-groups formed according to scores originally gained on the CTMM. For the experimental and control populations there were

these following subgroups and median grade scores on the five language sections of the Stanford Achievement Test:

Group		Mean of median grade scores on Stanford
Original raw scores on CTMM		
45 and over		
	exp	37.20
	con	36.49
35-44		
	exp	31.24
	con	29.81
34 and under		
	exp	21.68
	con	20.53

It was found that for none of the experimental and control subgroups was there a significant difference of means with respect to median grade scores gained on the Stanford Achievement Test.

The total experimental and control populations' scores were compared for each individual section of the Stanford. There were no significant differences between the mean grade scores for the following four sections of the test: Word Meaning, Paragraph Meaning, Spelling, and Language. When the Work Study Skills grade scores were compared, it was found that the experimental population gained significantly higher grade scores.

However, all raw scores were also compared for all the individual sections. Using raw scores, the differences between the populations were not significant for any section.

As noted above there was no significant difference between the means on the experimental and control populations for Spelling. The mean grade scores were: total experimental population,31.76; total control population, 30.93. An analysis of the spelling errors and omissions made by each population is shown on Table I (Appendix). This table shows the percents of errors and omissions of each word on the Stanford Achievement Test, Primary Battery II, Form W. The table also shows the ratio of types of different misspellings made by each population. The Chi-square statistic was used to compare the populations with respect to errors, omissions, and types of different misspellings. With 29 degrees of freedom, no significant difference was found in each comparison.

Table I also shows the most common misspelling for each word by each group. For twenty-two words the most common misspelling by each group was exactly alike. For one word there was a tie for most common misspellings with one of the words the same as that of the other population. Five times there was a one-letter difference between the most common misspellings. Certain words

elicited typically i.t.a. spellings* from both populations as the most common misspelling (e.g., beter, fue, frunt, flud, rong, turnd, anser.). While the experimental population more frequently chose these ways to misspell their words, the difference between the populations was not significant when compared by the Chi-square statistic.

(When comparisons were made of scores made by the total experimental and control populations on the Arithmetic Computation, Arithmetic Concepts, and Science and Social Studies Concepts sections, again, no significant differences were found between the mean scores.)

Near the 160th day of instruction, writing samples were secured. Teachers in each school gave exactly the same instructions to all the second graders who, in turn, wrote for 20 minutes. The writing samples were typed on cards (five inches by eight inches). Misspelled words in the original samples were typed correctly when the typist was able to determine what words the Ss were trying to spell. When the typist was unable to determine what word a S was writing, she typed the word exactly as it was spelled in the original. Capital letters and punctuation were typed as they appeared on the writing samples.

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*However, no letters were attached.

Cards were then rated on a five-point scale by two judges. The highest score was 5; the lowest was 1. The main emphasis in the rating was on evaluating communication.

Twelve criteria were used to rate communication:

Meaningful communication

Over-all length

Length of sentences

Use of elaborated sentences

Complexity of words used

Variety of words used

Imagination and originality, "flavor"

Use of adjectives and adverbs

Use of subordinate clauses

Evidence of complete thought in sentences, for example, subject-verb-complement

Evidence of development of ideas from beginning to end of a story

Appropriateness of punctuation and capitalization

The judges were asked to assign ratings on the basis of the quick impression gained from each card with the above criteria in mind. Moreover, judges were told that each rating represented a range of ability rather than a fixed point. The judges were given examples of ratings of writing samples on each level of the five-point scale as guides to their decisions.

The coefficient correlation of ratings by the two judges was .79, significant at the .01 level.

Mean ratings of writing samples by one judge were used to compare written communication of the experimental and control populations. The mean rating for the total experimental group was 2.4; for the control population it was 2.3. The difference in means was not significant when compared by the t-test. This finding differs from that gained at the end of the first grade in the comparison of writing samples based upon the first ten of the criteria listed above (i.e. excluding development of ideas from beginning to end of a story and appropriateness of punctuation and capitalization.) At the end of the first grade the mean rating for the experimental population was found to be significantly higher.

Ratings on writing samples were also compared on the basis of groups formed according to initial scores originally gained on the CTMM. Again, no significant differences were found between the means of experimental and control subgroups.

In addition to these comparisons, an analysis of covariance (Dyer and Schrader, 1960) was used to examine the statistical-linear relationship between the initial scores gained on the CTMM and these particular final scores, the ratings on writing samples. This analysis of covariance permits three comparisons.

First, the analysis of covariance showed that errors of prediction were not significantly different for the two total groups. Second, there was no significant difference with respect to measuring effectively the products of pupils who initially showed different levels of ability. Third, the analysis of covariance confirmed the finding of the t-test--no significant difference between the means of the judge's ratings of writing samples.

Based upon these findings the following conclusions recommend themselves.

There was no advantage for either population with respect to scores gained on a standardized test of language ability. These findings, added to the lack of difference in reading scores and in attitudes toward reading for the first grade, cause one to refrain from making any claims for or against the i.t.a. as a result of this study.

The method used in this study to rate and compare written communication continues to be effective. This year's results, showing no significant difference between the populations, confirm a trend that was observed in the analysis of results at the end of the first grade. That is, although the experimental group then gained a significantly higher mean rating, the sub-groups of each population gaining the highest scores were not significantly different, this caused us to speculate whether these differences would remain significant over time (1966,1967). It is altogether

possible that an enormous outcome of the current interest in i.t.a. may be the demonstration to teachers that first graders can express a good deal in writing. It is possible that the original lead held by the experimental Ss in the first grade resulted from changes in teachers' expectations. In the second grade, moreover, it is also possible that teachers' expectations may also have played as significant a role as did the particular alphabet used in the first grade.

As is true of many suggested educational innovations, the introduction of the i.t.a. has caused a good deal of polemics (for and against) as well as research. While the polemics have been fun to observe, they have not helped much. The research may. When all the data from all the studies with all the varying designs have been compared, perhaps then we will have a clear answer on the possible merit of the i.t.a.

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TABLE I

COMPARISONS OF MISSPELLINGS 11

	Word on test	Group	% mis-spelled	% omitted	Ratio of types of mis-spelling*	Most common mis-spelling	% using most common mis-spelling
1.	green	exp	4	2	4	greey	2
		con	7	1	7	(none)	-
2.	eats	exp	13	6	8	etas	3
		con	13	3	11	ets	2
3.	are	exp	12	4	9	or	5
		con	14	6	11	or	3
4.	from	exp	12	8	11	form	2
		con	15	5	14	form	2
5.	they	exp	19	7	8	thay	11
		con	20	6	11	thay	10
6.	told	exp	23	12	20	toled	2
		con	34	6	23	tolled	2
7.	very	exp	14	11	13	vary	2
		con	27	3	22	vere	4
8.	tie	exp	18	9	11	tiy	7
		con	19	7	14	tiy	5
9.	buy	exp	34	8	11	by	17
		con	30	3	14	by	11
10.	wash	exp	25	10	18	wosh	6
		con	35	5	27	wosh	5

* Gained by dividing number of different types of misspellings by N.

	Word on test	Group	% mis-spelled	% omitted	Ratio of types of mis-spelling	Most common mis-spelling	% using most common mis-spelling
11.	better	exp	32	9	20	beter	11
		con	24	6	24	beter	6
12.	also	exp	39	8	18	allso	7
		con	42	8	20	allso	17
13.	few	exp	56	13	36	fue	15
		con	59	10	37	fue	13
14.	such	exp	30	9	24	soch	3
		con	39	9	32	soch	4
15.	front	exp	34	9	23	frunt	6
		con	46	5	32	frunt	5
16.	shirt	exp	49	9	27	shurt	6
		con	52	14	33	shert	9
17.	guess	exp	59	10	28	gess	11
		con	69	5	37	gess	11
18.	thought	exp	58	14	29	thot	16
		con	63	12	41	thout	9
19.	flood	exp	77	13	19	flud	42
		con	78	12	31	flud	34
20.	orange	exp	53	13	39	orang	4
		con	65	7	52	oreng	4
21.	slowly	exp	39	13	23	sloly	9
		con	27	6	29	sloly	7
22.	wrong	exp	61	13	27	rong	28
		con	60	12	37	rong	14

	Word on test	Group	% mis-spelled	% omitted	Ratio of types of mis-spelling	Most common mis-spelling	% using most common mis-spelling
23.	grapes	exp	36	13	16	graps	19
		con	53	6	30	graps	18
24.	everybody	exp	48	16	31	evrybody	16
		con	61	8	37	evrybody	9
25.	turned	exp	59	10	32	turnd	8
		con	64	7	44	turnd--truned (tie)	4
26.	dollar	exp	66	13	19	doller	34
		con	68	8	22	doller	34
27.	family	exp	51	11	34	famly	11
		con	63	4	47	famly	8
28.	answer	exp	61	12	35	anser	17
		con	65	14	44	anser	13
29.	decided	exp	71	12	43	desided	14
		con	78	9	46	desided	23
30.	excuse	exp	80	16	58	exuse	13
		con	75	13	63	exuse	5